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RECORD NUMBER
122804
SHAUGHNESSEY NO.

REVIEW NO.

EEB REVIEW

DATE: IN 7-22-86 OUT SEP 26 1986

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RD ACTION CODE/TYPE OF REVIEW 706

TYPE PRODUCT(S) : I, D, H, F, N, R, S Insecticide (Fire Ants)

DATA ACCESSION NO(S).

PRODUCT MANAGER NO. G. LaRocca (15)

PRODUCT NAME(S) Avermectin B1 (Affirm)

COMPANY NAME Merck Sharp & Dohme Research Lab.

SUBMISSION PURPOSE Registrant Response concerning EEB Data Requirements

SHAUGHNESSEY NO.	CHEMICAL, & FORMULATION	% A.I.
122804	Avermectin B1	0.011

EEB REVIEW

Avermectin B1

100 Submission Purpose

In a June 27, 1986 letter, the registrant, Merck Sharp and Dohme Research Laboratories, requested further information on EEB data requirements for Avermectin B1.

101 Response to Information Request

The first data requirement discussed is the shrimp lifecycle test. This test is required because Avermectin is proposed for registration on cotton which is grown in the Southern United States. This is expected to result in exposure of estuarine habitat to Avermectin B1. Further, Avermectin functions not only as a direct toxicant, but it also stops egg production in the queen fire ant. This suggests a chemosterilant action. The fact that it functions several weeks after treatment indicates that it persists, at least underground. Because of this, it is necessary to determine its potential effect on reproduction in shrimp, the representative estuarine invertebrate.

The letter further questions the recommended test levels for the avian reproduction test with mallard ducks. The highest test level must either provide an adverse effect or equal the maximum exposure expected. Since the use that triggered this test was the fire ant use, the basis for test levels must be the bait formulation which is 0.011 % or 110 ppm active ingredient. Since birds may eat the granule the maximum exposure level must be 110 ppm if no adverse effects are detected. The registrant states that they have chosen 0, 3, 6, and 12 ppm as the doses based on expected concentrations on grass. This may be acceptable provided an adverse effect is observed at 12 ppm or if an additional test level of 110 ppm is added. Otherwise, the test will not be acceptable and will have to be repeated at higher test levels.

104 Conclusion

The mysid shrimp life-cycle test is required for large acreage uses that would result in estuarine exposure. The maximum test level for the avian reproduction test must result in adverse effects or equal 110 ppm.

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